Storm Water Pollution Prevention Plan

Storm Water Pollution Prevention Plan (SWPPP)

Permit Number: WVR 110685

Prepared For:

WV Poultry Partners LLC

Development Name & Location:

Pilgrims Site - Poultry Operation

Located on the west side of US 220N 0.87 miles north of the Parsons Ford bridge over the South Branch of the Potomac and across from the Moorefield Waste Water Treatment Plant

Prepared by:
Charles Kirk Wilson, PE

Date:

March 16, 2020

CERTIFICATIONS

To Be Completed by Permittee
(Plans and Specifications Operational Control)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for attesting to false information, including the possibility of fine and imprisonment for knowing violations."

Robert R. Williams	**304-257-7940**
Name and Title	Telephone Number
Robert R. Williams	3-20-20
Signature	Date

To Be Completed by Construction Site Operator/Co-Permittee
(Day-to-Day Operational Control)

"I certify that I have reviewed this document and all attachments that were prepared under professional supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for attesting to false information, including the possibility of fine and imprisonment for knowing violations."

Robert R. Williams	**304-257-7940**
Name and Title	Telephone Number
Robert R. Williams	3-20-20
Signature	Date

SWPPP Revision Documentation Form

This storm water pollution prevention plan (SWPPP) should be revised and updated to address changes in site conditions, new or revised government regulations, and additional on-site storm water pollution controls. The signature of this representative attests that the SWPPP revision information is true and accurate. Previous authors and facility representatives are not responsible for the revisions.

Number	Date	Company Representative's Signature

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1.0. CONTACT INFORMATION

PERMITTEE	*PHONE/FAX/MOBILE*	*ADDRESS*
WV Poultry Partners, LLC	*304-257-7940*	*PO Box 122* *Moorefield, WV 26836*
PROJECT CONTRACTOR		
Unknown at this time		
QUALIFIED PERSON/ 24-HOUR CONTACT		
Robert R. Williams	*304-257-7940*	*PO Box 122* *Moorefield, WV 26836*
OTHER		
Kirk Wilson, PE	*304-257-4818 or* *304-668-0365*	PO Box 826 Petersburg, WV 26847

2.0 OBJECTIVE

A storm water pollution prevention plan must be prepared for storm water discharges that will reach Waters of West Virginia, including discharges to the Municipal Separate Storm Sewer System (MS4), and to identify and address potential sources of pollution that are reasonably expected to affect the quality of discharges from the construction site, including off-site material storage areas, overburden and stockpiles of dirt, borrow areas, equipment staging areas, vehicle repair areas, fueling areas, etc., used by the permitted project. The SWPPP must describe and ensure the implementation of practices that will be used to reduce the pollutants in storm water discharges associated with construction activity at the construction site and assure compliance with the terms and conditions of the general permit.

3.0 Non-Storm Water Discharges

All discharges authorized by this permit shall be composed entirely of storm water.

4.0 SWPPP REVIEW AND AMMENDMENTS

4.1 Review

This SWPPP must be retained on-site at the construction site or, if the site is inactive or does not have an on-site location to store the plan, a notice must be posted describing the location of the SWPPP. This SWPPP must be made readily available at the time of an on-site inspection.

4.2 Amendments

This SWPPP will be revised or updated when the following occurs:

1. Change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants and that has not been previously addressed in this SWPPP.

2. Results of inspections or investigations indicating this SWPPP is proving ineffective in eliminating or significantly minimizing pollutants in discharges authorized under the general permit.

3. To identify any new contractor and/or subcontractor that will implement a measure of the SWPPP.

All other permittees implementing portions of the SWPPP that will be impacted by a change to the SWPPP will be notified of the change in a timely fashion.

The revisions to the SWPPP will be documented on the “SWPPP Revision Documentation Form” found in the front of this document. The authorized representative with regulatory authority (corporate officer or proprietor) to approve the SWPPP shall sign the modified plan certifying that the SWPPP revision information is true and accurate.

5.0 SITE OR PROJECT DESCRIPTION

5.1 Description of Construction Activity & Environmental Impacts

Developer: WV Poultry Partners II, LLC.
Builder: Unknown at this time

Site Location: THE PROJECT IS LOCATED NEAR MOOREFIELD, WV OFF OF US 220 N ON THE DRAINAGE OF AN UN-NAMED TRIBUTARY OF THE SOUTH BRANCH OF THE POTOMAC, IN HARDY COUNTY.

5.2 Construction Activity with Potential Pollutants and Sources

The following lists the construction activities or materials that have the potential to contribute pollutants, including sediment, to storm water runoff.

Construction Activity and/or Material	Potential Pollutant
• Land clearing	• Sediment – Total Suspended Solids (TSS), turbidity, oil and grease, Total Petroleum Hydrocarbons (TPH)
• Excavation	• Sediment – TSS, turbidity, oil and grease, TPH
• Filling	• Sediment – TSS, turbidity, oil and grease, TPH
• Grading	• Sediment – TSS, turbidity, oil and grease, TPH
• Utilities •	• Sediment – TSS, turbidity, oil and grease, TPH

5.3 Major Activities Schedule

The following schedule sheet is an intended schedule or sequence of major activities that will disturb the soil for major portions of the site. Details are provided as an attachment in Appendix C.

Schedule Sheet for Soil Disturbing Activities

Estimate Construction Start Date: May 1, 2020

Estimate Construction End Date: September, 2020

Activity	Estimated Time	Actual Time
Install BMPs, Basin, Traps and Diversion Ditches	30 days	
Land clearing	20 days Concurrent	
Grading	150 days Concurrent	
Excavation	150 days Concurrent	
Filling	150 days Concurrent	
Utilities – Well drilling and OH Power	30 days	
Revegetation	30 days Concurrent	
BMP SWM Conversion and Removal	10 days	

5.4 Property Acreage

The total area of the property is 115+/- acres. The total anticipated area of soils to be disturbed is 73.38 (LOD) acres.

5.5 Construction Activity Acreage

The total number of acres of construction activities, material storage areas, stockpiles, and borrows areas are listed below:

Activity or Material	Acres
Construction Activities (resulting in land disturbance)	73.38
Off-site Material Storage Areas	0
Overburden and Stockpiles of Dirt	2
Borrow Areas	0

5.6 Soil Data

Soil data for each lot is listed on a “Soil Data Sheet”. This information includes pre-construction and post-construction runoff coefficient as well as a description of the soil type.

Soil Data Sheet

Pre-construction runoff coefficient: 74

Post-construction runoff coefficient: 81

Runoff Coefficient:

High: 70-100% impervious (example: asphalt, buildings, paved surfaces)
Medium: 40-70% impervious (example: packed soils)
Low: 0-40% impervious (example: grassy areas)

Description of soil: The USDA SOIL SURVEY indicates mostly MONONGAHELA SILT LOAMS OF 3-15% slopes with varying depth over bedrock greater than 65" deep over weathered shale bedrock.

5.7 General Location Map and Site Map

The general location map found in Appendix A shows the location of the site. A detailed site map is also attached.

5.8 Erosion and Sediment Control Site Map

Site maps shall contain a North arrow with sites oriented to the North, with a minimum of five-foot topographical contours. The maps shall include:

- Nearest receiving streams, springs, surface waters to the site;
- Limits of all areas to be disturbed (LOD);
- Existing roads including public roads from which access to the site will be constructed;
- Access roads;
- Drainage patterns during and after construction with the outlet markers depicting the storm water discharge points;
- Slopes prior to constructions and anticipated conditions after grading activities;
- Location of topsoil stockpiles;
- Waste areas of 1 acre or greater within or contiguous to the construction site;
- Borrow sites of 1 acre or greater within or contiguous to the construction site;
- Locations and identification of sediment control structures;

- Total acreage and location of impervious areas after construction is complete;
- Location of rain gauge provided by the applicant
    - Or a statement the applicant will obtain the precipitation event information from a National Oceanic Atmospheric Administration (NOAA) weather station that is representative of the location and provide the Station ID Number.
- Post-development storm water management structures required by local governments
- Final storm water conveyances, including all ditches and pipe systems;
- Property boundaries and easements; and
- A legend, complete with any other information necessary to describe the project in detail.

5.9 Industrial Discharges

This project ***does not*** involve discharges associated with industrial activities other than commercial construction activities.

For construction occurring on an industrial site, reference existing multi-sector SWPPP, if applicable.

There ***are not*** dedicated concrete or asphalt plants associated with this project.

There will be no discharge of process wastewater from concrete or asphalt plants. Water from equipment and vehicle washing, wheel washing, concrete and bituminous washout, and washout from paints, oils, and other construction materials is production waste water and cannot be disposed of on site or discharged without an individual NPDES permit. It must be contained and removed for processing and proper disposal.

5.10 Receiving Waters

The first named water body that receives stormwater discharges from the site is South Branch of the Potomac River. (See Appendix A: General Site Location Map)

The Designated Uses for this water body are runoff, livestock and recreation.

5.11 WVDEP Construction General Permit, WV0115924

A copy of the WVDEP Construction General Permit, WV0115924 is included in Appendix B.

5.12 Threatened and/or Endangered Species

To be eligible for coverage under the construction stormwater permit, facilities must provide documentation on whether a listed endangered or threatened species, or critical habitat, are found with the proximity of the project. The facility used The Endangered Species Guidance provided in the Notice of Intent to help determine the status of the site. The species that must be considered in the area where this site is located are: NONE

A visual inspection of the area indicated (Check One):

■ No endangered or threatened species and/or critical habitat located within the proximity of the project.

▢ The following species and/or critical habitat and findings were noted: NONE

NOTE: Include documentation regarding authorization under the Endangered Species Act (ESA), comprehensive site assessments, and/or BMP's that are protective of listed endangered and threatened species and/or critical habitat, where applicable.

5.13 Historical Determination

The adverse effects on historic properties must be considered before a facility can be covered by the construction general permit. The National Register of Historic Places web site was reviewed and revealed the following (Check One):

■ None of the listed sites are located in the vicinity of the facility, or listed sites will not be affected by the facility.

▢ The following sites are located in the vicinity of the facility (West Virginia State Historic Preservation written agreement included in Appendix A.): NONE

NOTE: Include written agreement with the West Virginia State Historic Preservation Officer (SHPO) that outlines all measures to

be undertaken to mitigate or prevent adverse effects to the historic property, where applicable.

5.14 Total Maximum Daily Loading (TMDL)

The WVDEP (Check One)

- ■ Currently, there is no TMDL established for the receiving stream that would regulate potential pollutants from the construction site.

- ■ The enhanced BMP's chosen for this site and discussed in this SWPPP are expected to ensure that storm water discharges are protective of water quality standards.

6.0 EROSION AND SEDIMENT CONTROLS

This section includes descriptions of control measures that will be implemented to control pollutants in the storm water discharges. The control measures shall, at a minimum, be designed to effectively minimize the discharge of pollutants by design, installation, and maintenance, in order to meet effluent limitations required by 40 CFR 450.21. These limitations were incorporated into the reissued WV0115924, effective February 10, 2019.

6.1 Short and Long-Term Goals/Criteria

- Retain sediment on-site to the extent practicable with consideration for local topography, soil type, and rainfall.
- Select, install, and maintain control measures according to the manufacturer or designer's specifications.
- Remove sediment accumulations if sediment escapes the site at a frequency to minimize further negative effects and, whenever feasible, prior to the next storm event.
- Remove sediment from sediment traps and sedimentation ponds no later than the time that the wet storage design capacity has been reduced by 50%.
- Remove sediment from silt fences, silt socks, and straw wattles before reaching 50% of BMP height (above ground).
- Address off-site material storage areas in erosion and sediment control efforts (overburden and dirt stockpiles, borrow areas).

6.2 Best Practicable Technology (BPT)

The chosen controls shall include designs that are effective at minimizing pollutants, and should be installed and maintained to:

- Control storm water volume and velocity in ways that minimize soil erosion.
- Control storm water runoff during peak flow and total storm runoff volume to minimize channel and stream bank erosion and scour around discharge points.
- Minimize exposed soils generated during construction.
- Preserve topsoil where feasible.
- Minimize disturbance of steep slopes on site.
- Minimize sediment discharge with erosion and sediment controls that are designed and installed to address:
    - Duration, amount, frequency and intensity of precipitation,
    - Nature of resulting runoff,
    - Soil characteristics: range of particle sizes present.
- Use natural buffers around waters of the state and direct runoff to these areas, where feasible.
    - Discharges to Outstanding Natural Resource Waters and impaired streams must have a 100-foot buffer zone,
    - Explain alternative practices where site constraints limit buffer zones.
- Minimize soil compaction unless dictated by site development
- Utilize outlet structures that withdraw water from the surface of settling basins or impoundments.

6.3 Site-Specific Erosion and Sediment Controls

The erosion and sediment control methods used are listed in the “Erosion and Sediment Control Plan”. The sediment controls should address all of the requirements in Sections 6.1 and 6.2 of this SWPPP.

7.0 STABILIZATION PRACTICES

The site stabilization practices described in this SWPPP include temporary and permanent stabilization measures that ensure that disturbed portions of the site are stabilized, and that existing vegetation is preserved when possible. Final stabilization measures may include but are not limited to permanent protection such as pavement, compacted gravel, permeable pavements/pavers, buildings, stable waterways (riprap, concrete, grass or pipe), a healthy, vigorous stand of grass or natural vegetation that uniformly covers at least 70 percent of the ground, stable outlet channels with velocity dissipation that directs site runoff to a natural watercourse, and any other approved structure or material.

7.1 Deadline to Initiate Stabilization Measures

The types of activities that constitute the initiation of stabilization include, but are not limited to:

- Prepping soil for vegetative or non-vegetative stabilization
- Applying mulch or other non-vegetative product
- Seeding or planting
- Starting stabilization practices on a porting of the area to be stabilized
- Finalizing arrangements to have stabilization product fully installed.

Except as noted below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has permanently ceased or 4 days for sites required to use enhanced BMP's.

- Where the initiation of stabilization measures by the 4th day, as applicable after construction activity temporarily or permanently ceases is precluded by natural causes, stabilization measures shall be initiated as soon as conditions allow.
- Where construction activity will resume on a portion of the site within 14 days from when activities ceased, (i.e., the total time period that construction activity is temporarily halted is less than 14 days) then stabilization measures do not have to be initiated on that portion of the site by the seventh day after construction activities have temporarily ceased.
- Areas where the seed has failed to germinate adequately (uniform perennial vegetative cover with a density of 70%) within 30 days after seeding and mulching must be reseeded immediately, or as soon as weather conditions allow.

7.2 Deadline to Complete Installation of Stabilization Measures

As soon as practicable, but no later than 7 days after initiation of soil stabilization measures, the site will have completed:

- Vegetative Stabilization – initial seeding or planting, and/or
- Non-Vegetative – installation or application of stabilization measures.

With extenuating circumstances like frozen conditions, stabilization measures will be completed as soon as practicable. Routine inspections will be continued until final stabilization requirements are met.

7.3 Other Deadlines

Where the site is affected by circumstances beyond the control of the Stormwater Permittee, and vegetative stabilization measures are proposed, the following deadlines apply:

- Immediately initiate, and within 7 days complete installation of temporary non-vegetative measures to prevent erosion.
- As soon as conditions allow, the activities required to plant and initially establish vegetation will proceed.

The circumstances that led to the inability to complete the deadlines outlined in sections 7.1 and 7.2 of this SWPPP will be documented, with the outline of a schedule for initiating and completing stabilization.

7.4 Stabilization Records

The stabilization practices implemented will be recorded on the "Stabilization Practice Schedule" found in the appendix. If construction activities temporarily or permanently cease, then it will be noted in the Stabilization Practice Schedule.

Stabilization Practice Schedule

Address: 3900 US Rt 220, Old Fields, WV 26845

Stabilization Practices	Location	Time Frame*

* Time Frame: Includes dates of major grading activities, dates when construction activities temporarily or permanently ceases on a portion of the site, date when stabilization measures are initiated.

8.0 STRUCTURAL CONTROLS

8.1 Structural Control Requirements

Sediment traps and sediment basins may be used to control solids in storm water runoff for drainage locations serving less than ten (10) acres. Sediment basins must utilize outlet structures that release water from the surface, unless infeasible.

At a minimum, super silt fence, belted reinforced silt fence, standard silt fences, 18” silt socks, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction.

8.2 Site Structural Controls

The structural controls used on each lot are listed on the Structural Controls Sheet included in the Site Information Section of the appendix. These controls are used to divert flows away from exposed soils, to limit the contact of runoff with disturbed areas, or to lessen the off-site transport of eroded soils.

Structural Control Sheet

Address: 3900 US Rt 220, Old Fields, WV 26845

Structural Control Selected	Rational
Stabilized Construction Entrances	**Required to prevent tracking of mud off-site**
Sediment Basins	**Required to remove sediment from Storm Water**
Super Silt Fence	**Required to remove sediment from Storm Water**
Conversion of Sediment Basins to Dry Detention SW Management Ponds	**Required after site stabilization in order to check peak discharge**

9.0 STORM WATER MANAGEMENT

If any permanent storm water controls (e.g. detention ponds, catch basin filter inserts, etc.) or velocity dissipation devices are installed during the construction process to control pollutants in storm water discharges and will remain in place after the completion of construction operations will be noted on the Structural Control Sheet found in the Site Information section of the appendix.

10.0 OTHER CONTROLS

10.1 Other Control Requirements

To minimize off-site tracking of sediments and generation of dust, typical controls may include stabilized construction entrances, shoveling and sweeping, watering for dust control, etc.

All construction and waste materials that pose a potential pollutant source to the storm water runoff from the construction site will be stored in such a manner so as to prevent or minimize storm water contact.

To demonstrate that all applicable state and local regulations governing waste disposal, sanitary sewer or septic systems are being obeyed, the following practices are in place:

- The site will have the typical waste lumber, insulation, sheetrock, roofing, used paint supplies, etc. commonly found on a construction site. Either a roll off dumpster or wire fence containment will be provided for storing trash and rubbish until it can be properly disposed of. The dumpster or fence containment will be covered when not in use to prevent storm water from coming into contact with the trash and rubbish.
- Any concrete or asphalt plants associated with the project will be permitted and operated under their appropriate stormwater pollution prevention control plans.
- Any controls required for endangered or threatened species or their habitat, and/or those required by the State Historic Preservation Officer (SHPO) will be installed properly and maintained accordingly.

10.2 Other Controls at the Site:

If any other controls will be used, it will be described on the Other Control Sheet found in the Site Information in the appendix. For complex sites with more comprehensive controls, details are included in Appendix C.

Other Controls Sheet

Controls	Rationale
Dust -	Water as needed
Off-site Tracking -	Shoveling or sweeping as needed
Sewage -	Port-a-toilets for workers;
Construction Litter and Trash -	Covered trash receptacles to minimize waste materials contact with storm water

11.0 APPROVED LOCAL PLAN

The local requirements for an Erosion and Sediment Control Plan may or may not be met by the information contained in this SWPPP. Additional information may be requested to fully comply with these local requirements.

12.0 MAINTENANCE

All erosion and sediment control measures and other protective measures identified in this SWPPP must be maintained in effective operating condition. If through inspections the permittee determines that BMPs are not operating effectively, maintenance must be performed within 24 hours for active construction sites and before the next anticipated storm event to maintain the continued effectiveness of storm water controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Erosion and sediment controls that have been intentionally disabled, run-over, removed, or otherwise rendered ineffective must be replaced or corrected immediately upon discovery.

13. 0 INSPECTIONS OF CONTROLS

The permittee shall ensure site inspections are conducted by a Qualified Person in accordance with this section. The purpose of the inspections is to ensure compliance with the approved plan, and when the approved plan is not effective at protecting water quality, the inspection is to document that plan improvements are needed.

The person(s) inspecting the site may be a staff person or a third party hired to conduct such inspections as long as they meet the definition of a Qualified Person.

The site must be inspected as listed below, unless the site discharges to sensitive waters or the site qualifies for a reduction in the inspection frequency.

- At least once every seven (4) calendar days and
- Within 24 hours of the occurrence of a precipitation event of 0.25 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge.

An increase in inspection frequency is required for sites discharging to all waters except Tier 1.

For any portion of the site that discharges to a water that is classified as Tier 2 or Tier 3, or listed on the 303(d) list, inspections must be conducted in accordance with the following inspection frequencies:

- Once every four (4) calendar days, and
- Within 24 hours of the occurrence of a precipitation event of 0.25 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge.

Reductions in inspection frequency may occur in accordance with the following:

Stabilized areas:

The permittee may reduce the frequency of inspections to twice per month, no more than 14 calendar days apart, in any area of the site where final stabilization has been completed. If construction activity resumes in this portion of the site at a later date, the inspection frequency immediately increases to that required previous to the reduced frequency. The beginning and ending dates of this period must be recorded in the inspection report.

Exceptions:

For “linear projects”, where disturbed portions have undergone final stabilization at the same time active construction continues elsewhere, the permittee may reduce the frequency of inspections to twice per month no more than 14 calendar days apart, in any area of the site where the final stabilization has been completed. Inspect once more within 24 hours of the occurrence of a precipitation event of 0.25 inches or greater. If there are no issues or evidence of stabilization problems, further inspections may be suspended. If “wash-out” of stabilization materials and/or sediment is observed, following re-stabilization, the reduced inspection frequency is suspended. Inspections must continue until final stabilization is visually confirmed following a precipitation event of 0.25 inches or greater.

Frozen conditions:

If the permittee suspends construction activities due to frozen conditions, inspections on the site may be temporarily suspended until thawing conditions begin to occur if:

- Runoff is unlikely due to continuous frozen conditions that are likely to continue at the site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, the permittee must immediately resume the regular inspection frequency as applicable;
- Land disturbances have been suspended and all disturbed areas of the site have been stabilized.
-

If still conducting construction activities during frozen conditions, the permittee may reduce the inspection frequency to once per month if:

- Runoff is unlikely due to continuous frozen conditions that are likely to continue at the site for at least three (3) months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain events) make discharges likely, the permittee must immediately resume the regular inspection frequency; and
- Except for areas undergoing construction activities, disturbed areas of the site have been stabilized, the beginning and ending dates of this period must be documented in the inspection report.

14.0 CONTRACTORS AND SUBCONTRACTORS RESPONSIBILITY

Each control measure implemented on site is identified along with the person responsible for implementing that measure in the Erosion and

Sediment Control Plan found in the “Site Information” section of the appendix.

A list of contractors and subcontractors and the control measures their operations impact is listed in the “Site Information” section of the appendix. If the contractor is unknown at this time, this requirement may be waived.

All contractors and subcontractors working at the site are informed of the terms and conditions of the SWPPP and their obligation to follow the plan. In doing so, they agree not to perform their operations counter to the plan without first contacting the Permittee in order that the necessary adjustments to the SWPPP plan can be made to assure that pollutants are not discharged from the site in the storm water runoff.

15.0 UTILITY COMPANIES

Each control measure relating to the installation of utility service, is listed in the “Erosion and Sediment Control Plan” found in the “Site Information” section in the appendix.

16.0 EMERGENCY NOTIFICATION

In the event of an unauthorized discharge that causes an emergency condition, the operator shall notify the hotline (WVDEP24-hour Elkview Emergency Response Unit) by telephone at 1-(304) 558-5938 or 1-(800) 642-3074 and the National Response Center at 1-(800)-424-8802 no later than one hour after learning of the discharge. Notification will be made regardless of the amount of the discharge. A written notification shall be provided within five (5) calendar days after the telephone notification, in accordance with the general permit requirements. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time, and if, the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

17. EMPLOYEE TRAINING

Describe an employee training program for all on-site personnel directly involved with construction activities at all levels of responsibility that reiterates the components and goal of the SWPPP.

- Training should address topics such as spill and leak response and internal reporting, good housekeeping, and routine inspection and maintenance.

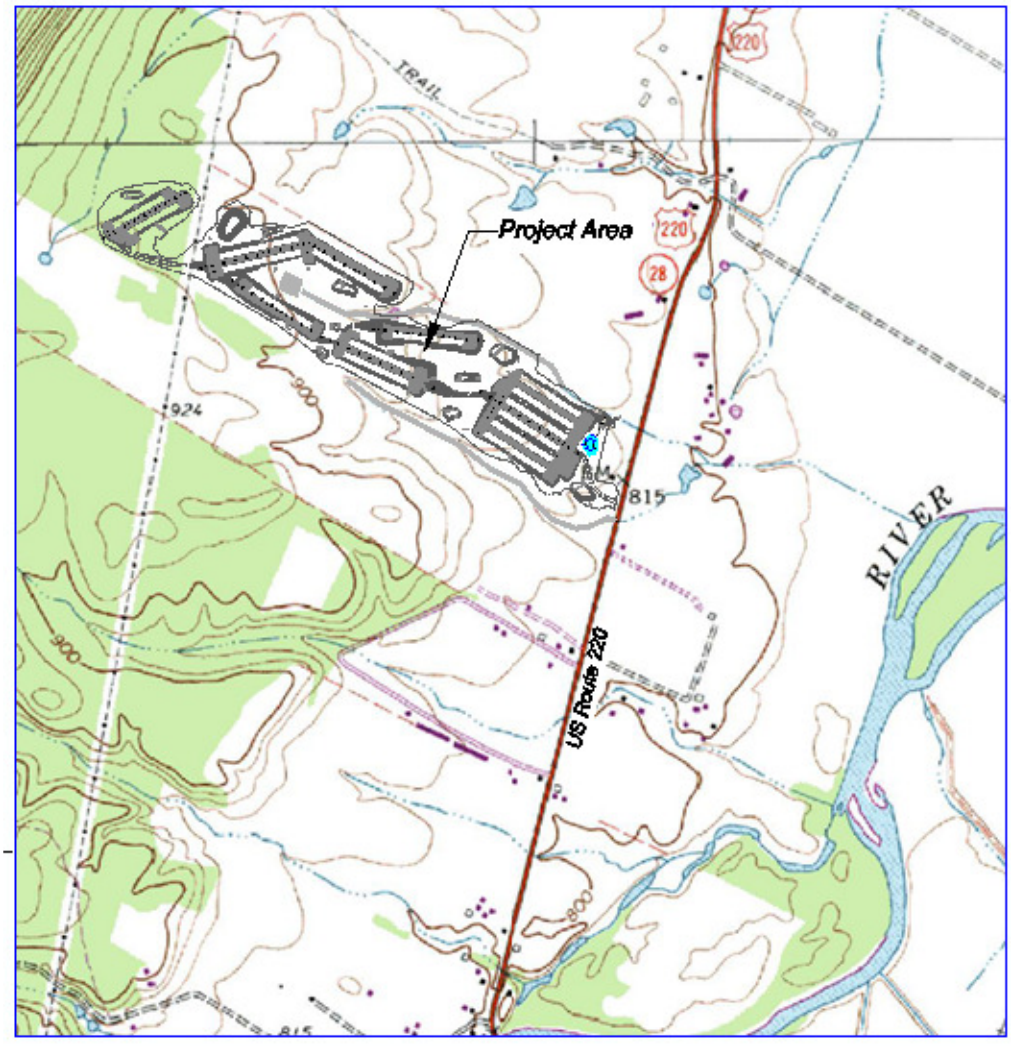
- Training shall be on a quarterly basis while construction activities are occurring.
- A list of attendees and topics covered at each training session shall be documented and maintained in the SWPPP.

APPENDIX A

General Location Map

and

Site Map



Scale

0' 1000' 2000' 3000'

SITE LOCATIONS NAD 83 (WV SOUTH ZONE)		
	LATITUDE	LONGITUDE
Center of Site	39.120756	-78.963390
Begin Access Road	39.118543	-78.965568

N

W E

S

APPENDIX B

WVDEP Construction General Permit

WV0115924

APPENDIX C

Site Information

Content:

1. General Description Sheet
2. Schedule Sheet for Soil Disturbing Activities
3. Soil Data Sheet
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7. Design Calculations
8. Revegetation Plan
9. Stabilization Practice Schedule
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See attached Plans for items 4-8

General Description Sheet

Description of Project: THE PROJECT IS LOCATED NEAR MOOREFIELD, WV OFF OF US ROUTE 220, IN HARDY COUNTY. THE PURPOSE OF THIS PROJECT IS TO INSTALL EROSION AND SEDIMENT CONTROL MEASURES, IN PREPARATION FOR THE CONSTRUCTION OF SIX POULTRY HOUSE PADS FOR A TOTAL OF 3 - 704’ X 63’ POULTRY HOUSES, 10 - 624' X 63' POULTRY HOUSES, 2 - 504' X 63' POULTRY HOUSES, 6 ACCESS ROADS, 10 - SEDIMENT BASINS/TRAPS WITH DIVERSION DITCHES AND INCIDENTAL WORK. THE TOTAL APPROXIMATE LAND DISTURBANCE (LOD) ASSOCIATED WITH THIS PROJECT IS 73.38 ACRES. SEDIMENT BASINS/TRAPS SHALL TRAP WATER FROM 54.92 ACRES AND SUPER SILT FENCE/18" SILT SOXX WILL BE INSTALLED IN ACCORDANCE WITH THE WV DEP EROSION AND SEDIMENT CONTROL BMP MANUAL FOR THE REMAINING 18.46 ACRES. THE TOTAL DISTURBED AREA CAN NOT BE DIRECTED TO SEDIMENT BASIN/TRAPS BECAUSE THERE IS INSUFFICIENT CONSTRUCTIBLE SPACE ON SOUTHEAST SIDE OF PAD 1 AND THE NORTHEAST SIDE OF PAD 2 TO INSTALL THE TRAPS TO MEET THE 3600 CF/AC STANDARD BECAUSE OF LMITED CONSTRUCTION AREA.

Schedule Sheet for Soil Disturbing Activities

Estimate Construction Start Date: May 1, 2020

Estimate Construction End Date: September 30, 2020

Activity	Estimated Time	Actual Time
Install BMPs and Construction Entrance	30 days	
Land clearing	20 days Concurrent	
Grading	150 days Concurrent	
Excavation	150 days Concurrent	
Filling	150 days Concurrent	
Utilities – Well drilling and OH Power	30 days	
Revegetation	30 days Concurrent	
BMP SWM Conversion and Removal	10 days	

Soil Data Sheet

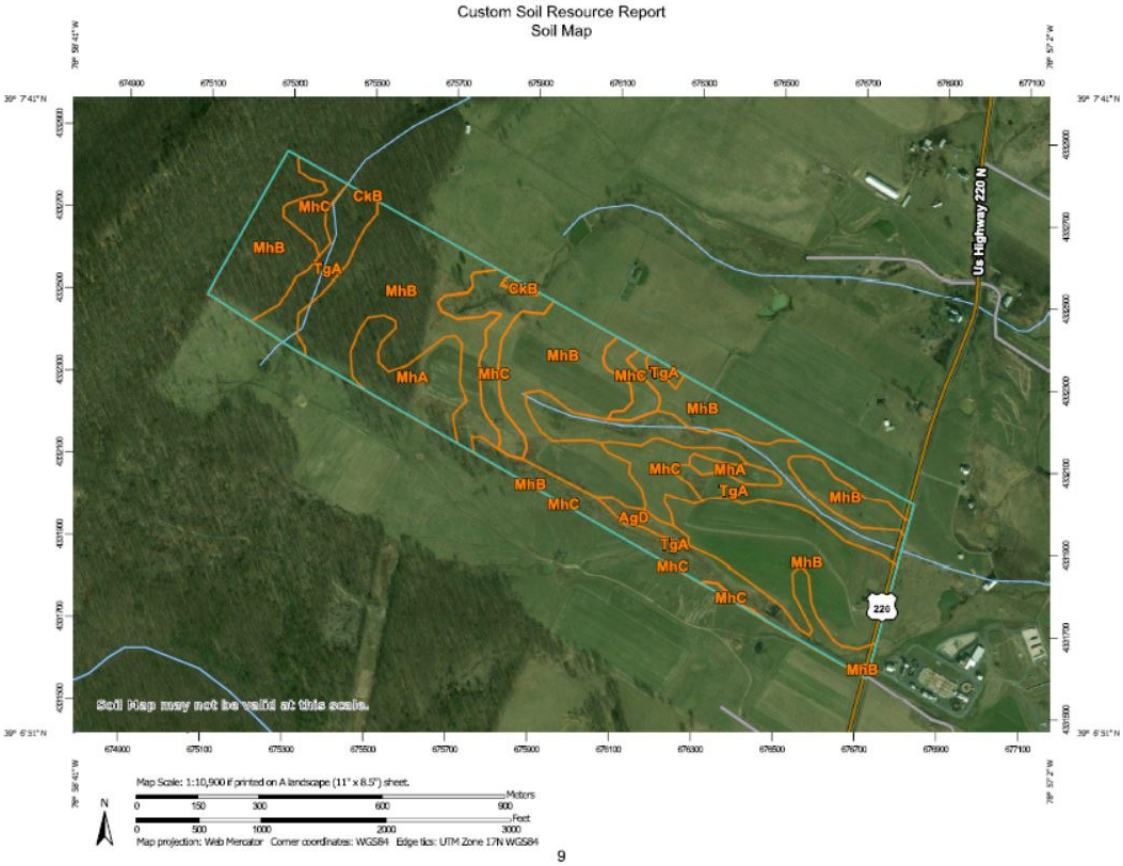
Pre-construction runoff coefficient: 74

Post-construction runoff coefficient: 81

Runoff Coefficient:

High: 70-100% impervious (example: asphalt, buildings, paved surfaces)
Medium: 40-70% impervious (example: packed soils)
Low: 0-40% impervious (example: grassy areas)

Description of soil type: The USDA SOIL SURVEY indicates mostly MONONGAHELA SILT LOAMS OF 3-15% slopes with varying depth over bedrock greater than 65” deep over weathered shale bedrock.



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AgD	Allegheny loam, 15 to 25 percent slopes	1.9	1.0%
CkB	Clarksburg channery silt loam, 3 to 8 percent slopes	0.4	0.2%
MhA	Monongahela silt loam, 0 to 3 percent slopes	13.0	6.9%
MhB	Monongahela silt loam, 3 to 8 percent slopes	105.7	56.4%
MhC	Monongahela silt loam, 8 to 15 percent slopes	22.6	12.0%
TgA	Tygart silt loam, 0 to 3 percent slopes	44.0	23.5%
Totals for Area of Interest		**187.6**	**100.0%**

Insert Erosion and Sediment Control Site Development Maps
See attached Plans

Erosion and Sediment Control Plan
See attached Plans

Insert Design Sheets
See attached Plans

Insert Design Calculations

The four road culverts are Designed for the 25-year Storm of 5.40 inches

Runoff Curve Number and Runoff Tue Mar 17 10:40:00 2020

Project: Road 6 Sta 3+50 By: Date: 03/17/20
Location: Checked: Date:
Developed

1. Runoff Curve Number (CN)

Cover description	CN	Soil Group	Area(Acre)
Gravel Streets, Pads and Buildings	89	C	0.000
Pasture Grassland Range (Good)	74	C	0.000
Woods (Good)	70	C	1.500
Row Crops - C&T & CR (Good)	77	C	0.000

CN (weighted): 70.0
Total Area: 1.500 Acre

2. Runoff
Return Period: 25 YEAR
Rainfall, P: 5.40 in
Runoff, Q: 2.3376 in
Runoff Volume: 0.2922 Acre-Ft

Time of Concentration (SCS) Tue Mar 17 10:40:40 2020

Project: Road 6 Sta 3+50 By: Date: 03/17/20
Location: Checked: Date: 03/17/20
Developed

Curve Number : 70
Length of Flow : 250.00 ft
Average Land Slope : 1.00 %

Time of Concentration : 0.233 hrs, 14.0 mins

Graphical Peak Discharge Tue Mar 17 10:41:24 2020

Project: Road 6 Sta 3+50 By: Date: 03/17/20

Location: Checked: Date:

Developed

1. Data:

Drainage area.....A = 1.5000Acres

Runoff Curve Number.....CN = 70

Time of Concentration.....Tc = 13.99 min

Storm Type..... = II

Pond and swamp areas spread throughout watershed..... = 0.00 percent of A
0.0000 Acres

2. Frequency.....yr = 25

3. Rainfall,P(24-hour).....in = 5.40

4. Initial abstraction, Ia..... = 0.8571

5. Compute Ia/P..... = 0.1587

6. Unit peak discharge, qu.....csm/in = 726.363

7. Runoff,Q.....in = 2.3376

8. Pond & swap adjustment factor,...Fp = 1.00

9. Peak Discharge,qp.....cfs = 3.990

Sewer Design Tue Mar 17 10:42:40 2020

Flow Rate(CFS): 3.99
Pipe Diameter(in): 15.00
Manning's n: 0.012
Length(ft): 50.00
Slope(ft/ft): 0.0300
Travel Time(min): 0.06
Flow Depth(in): 5.91
Velocity(fps): 8.57

Runoff Curve Number and Runoff Tue Mar 17 10:43:55 2020

Project: Road 6 Sta 4+45 By: Date: 03/17/20
Location: Checked: Date:
Developed

1. Runoff Curve Number (CN)

Cover description	CN	Soil Group	Area(Acre)
Gravel Streets, Pads and Buildings	89	C	0.000
Pasture Grassland Range (Good)	74	C	0.000
Woods (Good)	70	C	2.300
Row Crops - C&T & CR (Good)	77	C	0.000

CN (weighted): 70.0
Total Area: 2.300 Acre

2. Runoff
Return Period: 25 YEAR
Rainfall, P: 5.40 in
Runoff, Q: 2.3376 in
Runoff Volume: 0.4480 Acre-Ft

Time of Concentration (SCS) Tue Mar 17 10:44:43 2020

Project: Road 6 Sta 4+45 By: Date: 03/17/20
Location: Checked: Date: 03/17/20
Developed

Curve Number : 70
Length of Flow : 310.00 ft
Average Land Slope : 2.50 %

Time of Concentration : 0.175 hrs, 10.5 mins

Graphical Peak Discharge Tue Mar 17 10:45:30 2020

Project: Road 6 Sta 4+45 By: Date: 03/17/20

Location: Checked: Date:

Developed

1. Data:

Drainage area.....A = 2.3000Acres

Runoff Curve Number.....CN = 70

Time of Concentration.....Tc = 10.51 min

Storm Type..... = II

Pond and swamp areas spread throughout watershed..... = 0.00 percent of A
0.0000 Acres

2. Frequency.....yr = 25

3. Rainfall,P(24-hour).....in = 5.40

4. Initial abstraction, Ia..... = 0.8571

5. Compute Ia/P..... = 0.1587

6. Unit peak discharge, qu.....csm/in = 811.898

7. Runoff,Q.....in = 2.3376

8. Pond & swap adjustment factor,...Fp = 1.00

9. Peak Discharge,qp.....cfs = 6.819

Sewer Design Tue Mar 17 10:46:39 2020

Flow Rate(CFS): 6.82
Pipe Diameter(in): 15.00
Manning's n: 0.012
Length(ft): 50.00
Slope(ft/ft): 0.0300
Travel Time(min): 0.08
Flow Depth(in): 8.04
Velocity(fps): 10.19

Runoff Curve Number and Runoff Tue Mar 17 10:49:19 2020

Project: Road 5 Sta 3+60 By: Date: 03/17/20
Location: Checked: Date:
Developed

1. Runoff Curve Number (CN)

Cover description	CN	Soil Group	Area(Acre)
Gravel Streets, Pads and Buildings	89	C	2.600
Pasture Grassland Range (Good)	74	C	0.350
Woods (Good)	70	C	0.000
Row Crops - C&T & CR (Good)	77	C	0.150

CN (weighted): 86.7
Total Area: 3.100 Acre

2. Runoff
Return Period: 25 YEAR
Rainfall, P: 5.40 in
Runoff, Q: 3.9169 in
Runoff Volume: 1.0119 Acre-Ft

Time of Concentration (SCS) Tue Mar 17 10:50:38 2020

Project: Road 5 Sta 3+60 By: Date: 03/17/20
Location: Checked: Date: 03/17/20
Developed

Curve Number : 87
Length of Flow : 560.00 ft
Average Land Slope : 3.50 %

Time of Concentration : 0.140 hrs, 8.4 mins

Graphical Peak Discharge Tue Mar 17 10:51:10 2020

Project: Road 5 Sta 3+60 By: Date: 03/17/20

Location: Checked: Date:

Developed

1. Data:

Drainage area:.....A = 3.1000Acres

Runoff Curve Number:.....CN = 87

Time of Concentration:.....Tc = 8.43 min

Storm Type:..... = II

Pond and swamp areas spread throughout watershed..... = 0.00 percent of A
0.0000 Acres

2. Frequency.....yr = 25

3. Rainfall,P(24-hour).....in = 5.40

4. Initial abstraction, Ia..... = 0.2989

5. Compute Ia/P..... = 0.0553

6. Unit peak discharge, qu.....cmm/in = 901.586

7. Runoff,Q.....in = 3.9454

8. Pond & swap adjustment factor,...Fp = 1.00

9. Peak Discharge,qp.....cfs = 17.235

Sewer Design Tue Mar 17 10:52:27 2020

Flow Rate(CFS): 17.24
Pipe Diameter(in): 18.00
Manning's n: 0.012
Length(ft): 60.00
Slope(ft/ft): 0.0600
Travel Time(min): 0.06
Flow Depth(in): 9.36
Velocity(fps): 18.56

Runoff Curve Number and Runoff Tue Mar 17 10:57:12 2020

Project: Road 6 Sta 3+40 By: Date: 03/17/20
Location: Checked: Date:
Developed

1. Runoff Curve Number (CN)

Cover description	CN	Soil Group	Area(Acre)
Gravel Streets, Pads and Buildings	89	C	0.790
Pasture Grassland Range (Good)	74	C	0.200
Woods (Good)	70	C	0.000
Row Crops - C&T & CR (Good)	77	C	0.250

CN (weighted): 84.1
Total Area: 1.240 Acre

2. Runoff
Return Period: 25 YEAR
Rainfall, P: 5.40 in
Runoff, Q: 3.6448 in
Runoff Volume: 0.3765 Acre-Ft

Time of Concentration (SCS) Tue Mar 17 10:58:51 2020

Project: Road 6 Sta 3+40 By: Date: 03/17/20
Location: Checked: Date: 03/17/20
Developed

Curve Number : 84
Length of Flow : 670.00 ft
Average Land Slope : 2.26 %

Time of Concentration : 0.224 hrs, 13.5 mins

Graphical Peak Discharge Tue Mar 17 10:59:40 2020

Project: Road 6 Sta 3+40 By: Date: 03/17/20

Location: Checked: Date:

Developed

1. Data:

Drainage area:.....A = 1.2400Acres

Runoff Curve Number:.....CN = 84

Time of Concentration:.....Tc = 13.47 min

Storm Type:..... = II

Pond and swamp areas spread throughout watershed..... = 0.00 percent of A
0.0000 Acres

2. Frequency.....yr = 25

3. Rainfall,P(24-hour).....in = 5.40

4. Initial abstraction, Ia..... = 0.3810

5. Compute Ia/P..... = 0.0706

6. Unit peak discharge, qu.....cms/in = 796.657

7. Runoff,Q.....in = 3.6385

8. Pond & swap adjustment factor,...Fp = 1.00

9. Peak Discharge,qp.....cfs = 5.404

Sewer Design Tue Mar 17 11:00:46 2020

Flow Rate(CFS): 17.24
Pipe Diameter(in): 24.00
Manning's n: 0.012
Length(ft): 30.00
Slope(ft/ft): 0.0300
Travel Time(min): 0.04
Flow Depth(in): 10.63
Velocity(fps): 12.83

Diversion Ditch Maximum Flow Calculation 10 yr Storm.

Diversion Ditches leading to Sediment Basin 6a will have the maximum flow of all project diversions and will be used as the default design for all.

Graphical Peak Discharge
Project: Sed Trap 6a
Location: Developed

1. Data:
   Drainage area:.....A = 12.4900Acres
   Runoff Curve Number:.....CN = 89
   Time of Concentration:.....Tc = 28.68 min
   Storm Type:..... = II
   Pond and swamp areas spread
   throughout watershed..... = 0.0000 Acres

2. Frequency.....yr = 10
3. Rainfall,P(24-hour).....in = 4.75
4. Initial abstraction, Ia..... = 0.2472
5. Compute Ia/P..... = 0.0520
6. Unit peak discharge, qu.....csm/in = 547.276
7. Runoff,Q.....in = 3.5330
8. Pond & swap adjustment factor,...Fp = 1.00
9. Peak Discharge,qp.....cfs = 37.734

Channel Design (Non-Erodible)

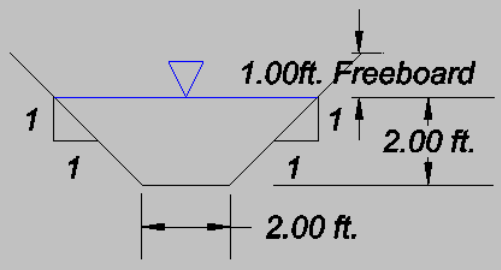
Channel Type: Trapezoidal, Equal Side Slopes
Dimensions: Left Side Slope 1.00:1
Right Side Slope 1.00:1
Base Dimension: 2.00

Wetted Perimeter: 7.66
Area of Wetted Cross Section: 8.00

Channel Slope: 1.5000
Manning's n of Channel: 0.0356

Discharge: 42.11 cfs
Depth of Flow: 2.00 feet
Velocity: 5.26 fps

Channel Lining: 6 inch Rock Rip-Rap
Freeboard: 1.00 feet



Trapezoidal Channel
Equal Side Slopes
Channel Lining: TRM w/ Rip Rap Checks

Sediment Trap and Basin Design Calculations (All Outlets and Riser designed to 25yr Storm of 5.4 inches. Traps have 48 hour Detention Periods and Basins have 72 hour Detention Periods).

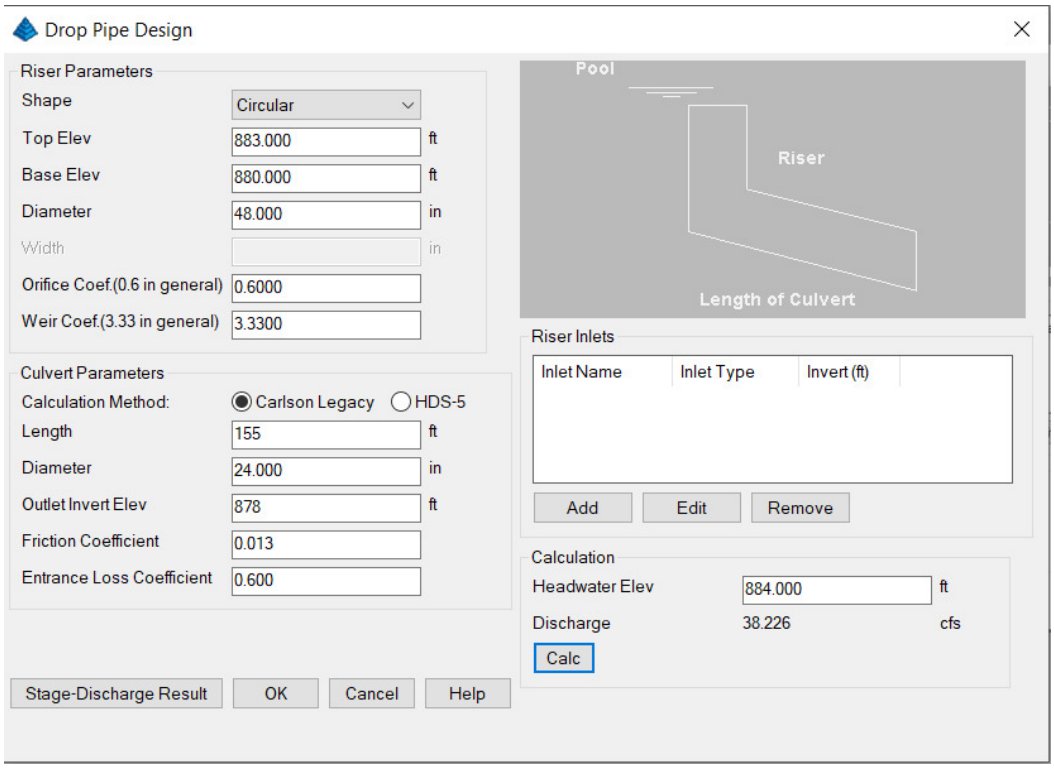
Calculations for the Sediment Traps and Basins are also shown on Sheets 5-10 of the attached plans.

Project Drainage Areas		
Project Area	**Drainage Area (Acres)**	**Advanced BMP**
House Pad 1 (West and South half)	3.37	Sed Trap 1a
House Pad 1 (East and North half) and Road 1 Sta. 1+50 to End	6.52	SSF and 300+' Riparian
North half Topsoil/Spoil Pad Area	1.25	SSF and 100+' Riparian
North House area on Pad 2	2.30	Sed Trap 2a
North East Side of Pad 2	3.41	SSF and 300+' Riparian
South and Southeast Remainder of Pad 2, Road 1 Sta. 0+00 to 1+50, Northwest and half of House on Pad 3, North half of Road 2	9.01	Sed Trap 2b
South, Southeast and East fill slopes on Pad 2 not directed to Sediment Basin 2b	3.13	SSF and 300+' Riparian
South half of Road 2 and South half of Pad 3 and House, South half of Road 3	1.37	Sed Trap 3a
North East and east end of Pad 3 and north half of Road 3	2.23	Sed Trap 3b
South half of Pad 4 and house, south half of Road 5 Sta 2+00 to End	4.55	Sed Trap 4a
East and north east fill slopes on Pad 4 that is not Diverted to Sed Trap 5, North half of Road 5	2.96	Sed Trap 4b
Road 4, House Pad 5 and North half of Pad 4 not diverted to Sed Trap 4b	10.50	Sed Trap 5a
South half Road 5 Sta. 0+00 to 2+00, South 2/3 of Pad 6 that is not diverted to Sed Trap 6b	12.49	Sed Trap 6a
North half Road 5 Sta 0+00 to 2+00, North 1/3 of Pad 6 not diverted to Sed Trap 6a	6.14	Sed Trap 6b
Area East of Sed Traps 6a and 6b Diversions and area around Road 6 to US 220N	4.15	SSF and Riparian
Total Trapped Drainage Area	**54.92**	
Total Super Silt Fence/18" Silt Soxx + Riparian Area	**18.46**	
Total LOD Area	**73.38**	

Sediment Trap 1a Data	
Dranage Area (Acres)	3.37
Storage Required (CF)	12132
Full Capacity (CF) Crest Spillway	20487
Berm Elevation	907
Crest Spillway	906
Bottom Elevation	903
Interior Slopes	3:1
Exterior Slope	2:1
Max Berm Height	3
Berm Thickness at Top	5
Bottom Dimensions	147' by 33'
Top Dimensions	167' by 50'
Spillway Dimension	Trapazoidal 15' base w/ 2.5:1 Sides
Spillway Flow w/ 1' Freeboard	22.1 cfs (16.6 cfs Req)
Dewatering Time	48 hours

Sediment Trap 2a Data	
Dranage Area (Acres)	2.3
Storage Required (CF)	8280
Full Capacity (CF) Crest Spillway	9893
Berm Elevation	889
Crest Spillway	888
Bottom Elevation	884
Interior Slopes	3:1
Exterior Slope	2:1
Max Berm Height	2
Berm Thickness at Top	5
Bottom Dimensions	119' by 28'
Top Dimensions	134' by 46'
Spillway Dimension	Trapazoidal 15' base w/ 2.5:1 Sides
Spillway Flow w/ 1' Freeboard	22.1 cfs (10.41 cfs Req)
Dewatering Time	48 hours

Sediment Basin 2b Data	
Dranage Area (Acres)	9.01
Storage Required (CF)	32436
Full Capacity (CF) Top of Riser	36284
Berm Elevation	886
25 yr Storm Elev	884.5
Bottom Elevation	880
Interior Slopes	2.5:1
Exterior Slope	2.5:1
Max Berm Height	3'
Berm Thickness	5'
Bottom Dimensions	170' by 50'
Top Dimensions	192' by 88'
Riser Dimension (Inches)	48
Riser Top Elevation	884
Riser Invert Elevation	880
24" Riser Culvert Outlet Invert	879
Orifice Elevation	881
Orifice Diameter (Inches)	1
Riser Flow with 1' Freeboard	38.23 cfs (29.22cfs required)
Dewatering Time	72 hours



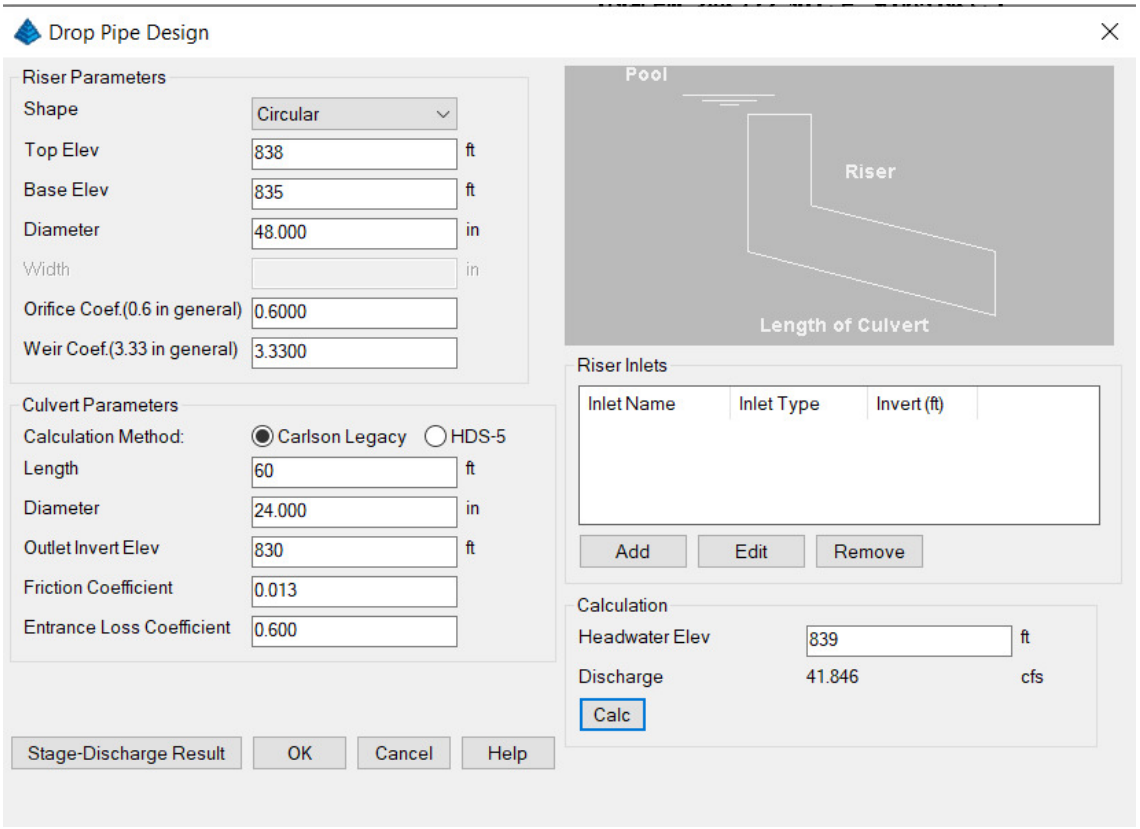
Sediment Trap 3a Data	
Dranage Area (Acres)	1.37
Storage Required (CF)	4932
Full Capacity (CF) Crest Spillway	16478
Berm Elevation	886
Crest Spillway	884.5
Bottom Elevation	880
Interior Slopes	2.5:1
Exterior Slope	2.5:1
Max Berm Height	2'
Berm Thickness	5'
Bottom Dimensions	79' by 29'
Top Dimensions	108' by 58'
Spillway Dimension	Trapazoidal 15' base w/ 2.5:1 Sides
Spillway Flow w/ 1' Freeboard	22.1 cfs (5.09 cfs Req)
Dewatering Time	48 hours

Sediment Trap 3b Data	
Dranage Area (Acres)	2.23
Storage Required (CF)	8028
Full Capacity (CF) Crest Spillway	8648
Berm Elevation	883
Crest Spillway	882
Bottom Elevation	878
Interior Slopes	2.5:1
Exterior Slope	2.5:1
Max Berm Height	1
Berm Thickness at Top	5
Bottom Dimensions	68' by 24'
Top Dimensions	88' by 41'
Spillway Dimension	Trapazoidal 15' base w/ 2.5:1 Sides
Spillway Flow w/ 1' Freeboard	22.1 cfs (8.42 cfs Req)
Dewatering Time	48 hours

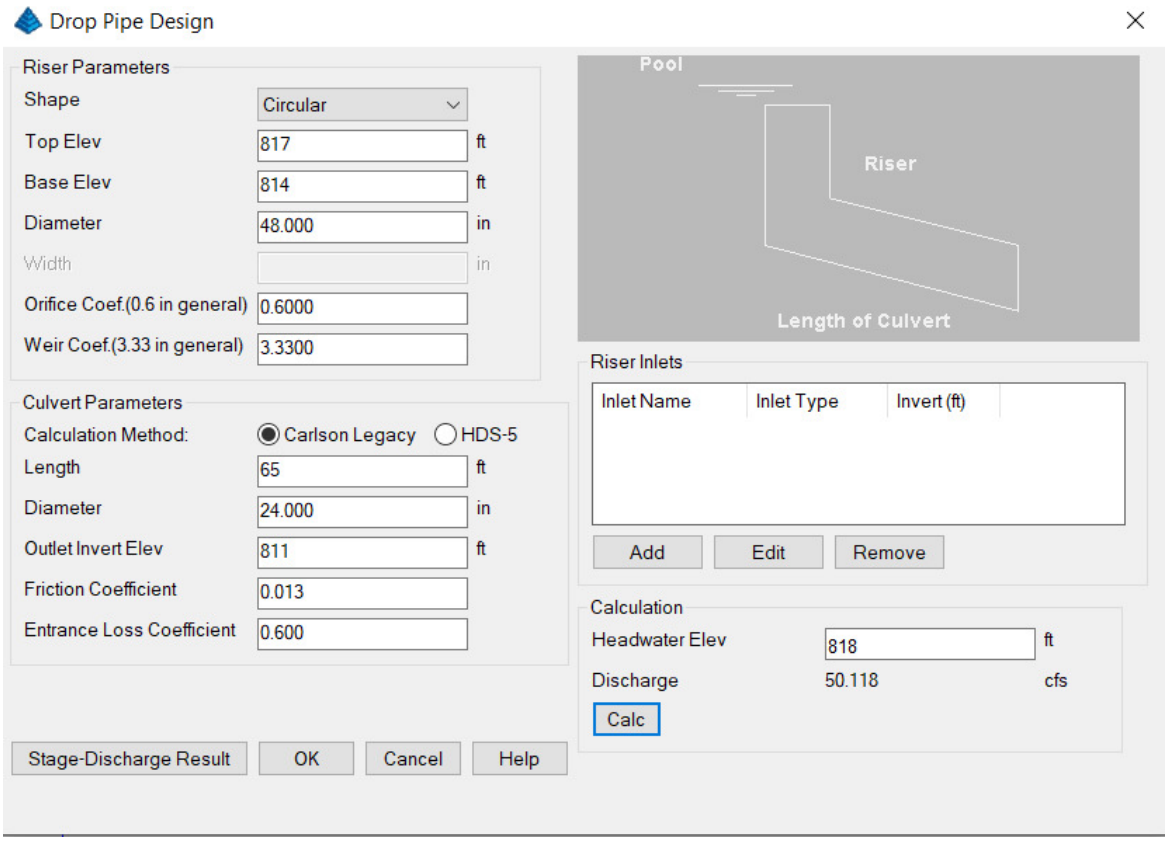
Sediment Trap 4a Data	
Dranage Area (Acres)	4.55
Storage Required (CF)	16380
Full Capacity (CF) Crest Spillway	27082
Berm Elevation	853
Crest Spillway	852
Bottom Elevation	848
Interior Slopes	2.5:1
Exterior Slope	3:1
Max Berm Height	4'
Berm Thickness at Top	5'
Bottom Dimensions	96' by 68'
Top Dimensions	117' by 90'
Spillway Dimension	Trapazoidal 15' base w/ 2.5:1 Sides
Spillway Flow w/ 1' Freeboard	22.1 cfs (18.29 cfs Req)
Dewatering Time	48 hours

Sediment Trap 4b Data	
Dranage Area (Acres)	2.96
Storage Required (CF)	10656
Full Capacity (CF) Crest Spillway	23138
Berm Elevation	844.5
Crest Spillway	843.5
Bottom Elevation	838.5
Interior Slopes	2.5:1
Exterior Slope	3:1
Max Berm Height	3'
Berm Thickness at Top	5'
Bottom Dimensions	171' by 33'
Top Dimensions	186' by 62'
Spillway Dimension	Trapazoidal 15' base w/ 2.5:1 Sides
Spillway Flow w/ 1' Freeboard	22.1 cfs (14.11 cfs Req)
Dewatering Time	48 hours

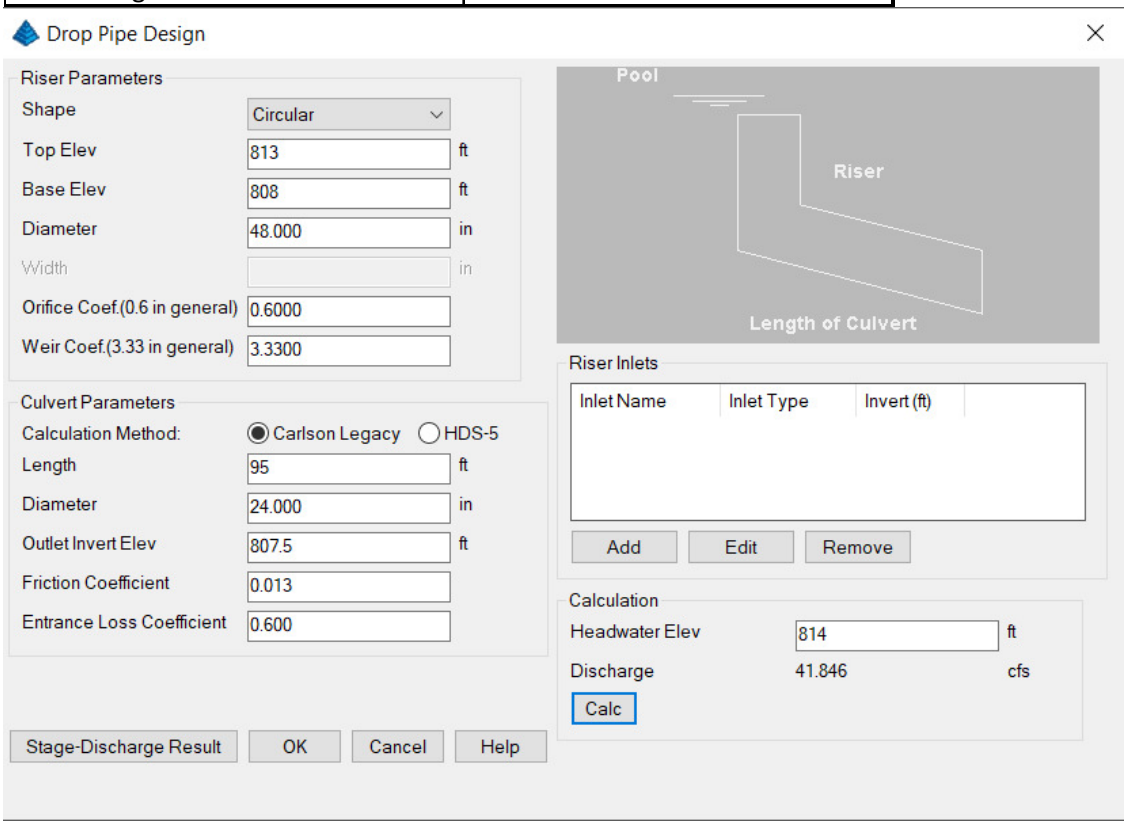
Sediment Basin 5a Data	
Dranage Area (Acres)	10.5
Storage Required (CF)	37800
Full Capacity (CF) Top of Riser	75346
Berm Elevation	840
25 yr Storm Elev	839
Bottom Elevation	834
Interior Slopes	2.5:1
Exterior Slope	3:1
Max Berm Height	8'
Berm Thickness	8'
Bottom Dimensions	163' by 117'
Top Dimensions	181' by 151'
Riser Dimension (Inches)	48
Riser Top Elevation	838
Riser Invert Elevation	835
24" Riser Culvert Outlet Invert	830
Orifice Elevation	836
Orifice Diameter (Inches)	2
Riser Flow with 1' Freeboard	41.86 cfs (30.10cfs required)
Dewatering Time	72 hours



Sediment Basin 6a Data	
Dranage Area (Acres)	12.49
Storage Required (CF)	44964
Full Capacity (CF) Top of Riser	50393
Berm Elevation	819
25 yr Storm Elev	818
Bottom Elevation	813
Interior Slopes	2.5:1
Exterior Slope	2.5:1
Max Berm Height	6'
Berm Thickness	8'
Bottom Dimensions	134' by 85'
Top Dimensions	162' by 109'
Riser Dimension (Inches)	48
Riser Top Elevation	817
Riser Invert Elevation	814
24" Riser Culvert Outlet Invert	812
Orifice Elevation	815
Orifice Diameter (Inches)	1.5
Riser Flow with 1' Freeboard	50.19 cfs (44.39 cfs required)
Dewatering Time	72 hours



Sediment Basin 6b Data	
Dranage Area (Acres)	6.14
Storage Required (CF)	22104
Full Capacity (CF) Top of Riser	31252
Berm Elevation	815
25 yr Storm Elev	814
Bottom Elevation	808
Interior Slopes	2:1
Exterior Slope	3:1
Max Berm Height	3'
Berm Thickness	5'
Bottom Dimensions	105' by 39'
Top Dimensions	127' by 64'
Riser Dimension (Inches)	48
Riser Top Elevation	813
Riser Invert Elevation	808
24" Riser Culvert Outlet Invert	807.5
Orifice Elevation	810
Orifice Diameter (Inches)	1
Riser Flow with 1' Freeboard	41.85 (24.94cfs Req)
Dewatering Time	72 hours



Pre and Post Peak Discharge Calculations are below and shown on Sheet 29 of the attached Drawings.

Pre-Construction Peak Flow

Runoff Curve Number and Runoff Fri Feb 07 15:41:49 2020

Project: WV PP II By: Date: 02/07/20
Location: Checked: Date:
Present

1. Runoff Curve Number (CN)

Cover description	CN	Soil Group	Area(Acre)
Gravel Streets, Pads and Buildings	89	C	0.000
Grass (Good)	74	C	64.540
Woods (Good)	70	C	8.840

CN (weighted): 73.5
Total Area: 73.380 Acre

2. Runoff
Return Period: 1 YEAR
Rainfall, P: 2.48 in
Runoff, Q: 0.5775 in
Runoff Volume: 3.5311 Acre-Ft

Time of Concentration (SCS) Fri Feb 07 15:44:03 2020

Project: WV PP II By: Date: 02/07/20
Location: Checked: Date: 02/07/20
Present

Curve Number : 74
Length of Flow : 4350.00 ft
Average Land Slope : 2.38 %

Time of Concentration : 1.330 hrs, 79.8 mins

Graphical Peak Discharge Fri Feb 07 15:44:41 2020

Project: WV PP II By: Date: 02/07/20

Location: Checked: Date:

Present

1. Data:

Drainage area:.....A = 73.3800Acres

Runoff Curve Number:.....CN = 74

Time of Concentration:.....Tc = 79.78 min

Storm Type:..... = II

Pond and swamp areas spread throughout watershed..... = 0.00 percent of A
0.0000 Acres

2. Frequency.....yr = 1

3. Rainfall,P(24-hour).....in = 2.48

4. Initial abstraction, Ia..... = 0.7027

5. Compute Ia/P..... = 0.2833

6. Unit peak discharge, qu.....csm/in = 253.524

7. Runoff,Q.....in = 0.5970

8. Pond & swap adjustment factor,...Fp = 1.00

9. Peak Discharge,qp.....cfs = 17.355

Post-Construction Peak Flow

Runoff Curve Number and Runoff Fri Feb 07 15:46:59 2020

Project: WV PP II By: Date: 02/07/20
Location: Checked: Date:
Developed

1. Runoff Curve Number (CN)

Cover description	CN	Soil Group	Area(Acre)
Gravel Streets, Pads and Buildings	89	C	33.500
Grass (Good)	74	C	39.880
Woods (Good)	70	C	0.000

CN (weighted): 80.8
Total Area: 73.380 Acre

2. Runoff
Return Period: 1 YEAR
Rainfall, P: 2.48 in
Runoff, Q: 0.9200 in
Runoff Volume: 5.6255 Acre-Ft

Time of Concentration (SCS) Fri Feb 07 15:50:37 2020

Project: WV PP II By: Date: 02/07/20
Location: Checked: Date: 02/07/20
Developed

Curve Number : 81
Length of Flow : 5960.00 ft
Average Land Slope : 1.21 %

Time of Concentration : 49.946 hrs, 2996.8 mins

Graphical Peak Discharge Fri Feb 07 15:56:56 2020

Project: WV PP II By: Date: 02/07/20

Location: Checked: Date:

Developed

1. Data:

Drainage area:.....A = 73.3800Acres

Runoff Curve Number:.....CN = 81

Time of Concentration:.....Tc = 2996.76 min

Storm Type:..... = II

Pond and swamp areas spread throughout watershed..... = 3.39 percent of A
2.4876 Acres

2. Frequency.....yr = 1

3. Rainfall,P(24-hour).....in = 2.48

4. Initial abstraction, Ia..... = 0.4691

5. Compute Ia/P..... = 0.1892

6. Unit peak discharge, qu.....csm/in = 57.325

7. Runoff,Q.....in = 0.9282

8. Pond & swap adjustment factor,...Fp = 0.76

9. Peak Discharge,qp.....cfs = 4.636

Insert Revegetation Plan

The site stabilization practices described in this SWPPP include temporary and permanent stabilization measures that ensure that disturbed portions of the site are stabilized, and that existing vegetation is preserved when possible. Final stabilization measures may include but are not limited to permanent protection such as pavement, compacted gravel, permeable pavements/pavers, buildings, stable waterways (riprap, concrete, grass or pipe), a healthy, vigorous stand of

grass or natural vegetation that uniformly covers at least 70 percent of the ground, stable outlet channels with velocity dissipation that directs site runoff to a natural watercourse, and any other approved structure or material.

Requirements for Temporary and Final seeding and stabilization of the site are shown on Sheets 1 and 2 of the project plans which includes rates for lime, fertilizer, seed and applications rates.

Slopes shall be prepared as required, seeded and covered with slope matting as shown in the project plans (required for slopes steeper than 2:1).

Areas that do not germinate or obtain an established vegetative cover of greater than 70% shall be re-seeded and protected until the vegetative cover is obtained.

Stabilization Practice Schedule

Address: 3900 US Rt 220, Old Fields, WV 26845

Stabilization Practices	Location	Time Frame*

* Time Frame: Includes dates of major grading activities, dates when construction activities temporarily or permanently cease on a portion of the site, date when stabilization measures are initiated.

Structural Control Sheet

Address: 3900 US Rt 220, Old Fields, WV 26845

Structural Control Selected	Rational
Stabilized Construction Entrances	**Required to prevent tracking of mud off-site**
Sediment Basins	**Required to remove sediment from Storm Water**
Super Silt Fence	**Required to remove sediment from Storm Water**
Conversion of Sediment Basins to Dry Detention SW Management Ponds	**Required after site stabilization in order to check peak discharge**

INSPECTION REPORT

Address: 3900 US Rt 220, Old Fields, WV 26845 (**WVR 110685**)

Date: _____

Inspector/Title: _____

Erosion and Sediment Control Measure	Satisfactory Yes/No	Comments

Entrance(s): Clear of Mud, Dirt, Debris, or Tracking Yes _____, No _____

Corrective Action_____

Outfall Locations: BMPs are in place and working. Yes _____, No _____

Corrective Action_____

Disturbed Area(s): BMPs are in place and working. Yes _____, No _____

Corrective Action_____

Summary of Findings:

Non-Compliance Issues:

Site is in Compliance Yes _____ No _____

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I also certify that a storm water pollution prevention plan, including both construction and post construction controls, has been prepared for the site in accordance with the permit and that such plan complies with approved State and/or local sediment and erosion plans or permits and/or storm water management plans or permits. I am aware that signature and submittal of the Site Registration Application is deemed to constitute my determination of eligibility under one or more of the requirements of Permit Appendix A.I.11., related to the Endangered Species Act requirements. To the best of my knowledge, I further certify that such discharges and discharge related activities will not have an effect on properties listed or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act, or are otherwise eligible for coverage under the permit. I am also aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name and Title	*Telephone Number*
Signature	*Date*